Project Charter Document

Project Title: Blockchain-Based Voting System

Domain: Governance & Security

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Group Members

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1. Project Purpose and Justification

Purpose:
The Blockchain-Based Voting System aims to provide a secure, transparent, and efficient method for online voting. By leveraging blockchain technology, this system will eliminate voting fraud, ensure data integrity, and increase trust in the electoral process.

Justification:
The current voting systems are susceptible to fraud, tampering, and inefficiency in result compilation. A blockchain-integrated system ensures each vote is immutable and traceable while maintaining voter anonymity. The integration of biometric or OTP-based authentication further enhances voter security.

2. Objectives

- **Primary Objective:** Develop and deploy a secure, blockchain-based online voting platform.
- **Specific Objectives:**
    1. Implement blockchain technology for vote recording and verification.
    2. Incorporate biometric or OTP-based voter authentication mechanisms.
    3. Provide real-time results tracking and data analysis capabilities.
    4. Enable role-based access control for administrators and observers.

3. High-Level Requirements

- Blockchain integration for secure and immutable vote recording.
- Biometric or OTP-based voter authentication.
- Real-time dashboard for results tracking.
- Role-based access for administrators and observers.
- Logging and reporting mechanisms for audit purposes.

4. Assumptions and Constraints

Assumptions:

- Blockchain technology and biometric/OTP services will be available and operational during the project timeline.
- Stakeholders will provide timely feedback and approvals.

Constraints:

- The system must adhere to government regulations and standards.
- Deployment deadline is fixed to align with the election schedule.

5. Approach

The project will follow the Waterfall methodology, ensuring a structured and sequential development process. Key steps include:

- **Requirements Analysis:**
  - Engage with stakeholders to gather and document detailed requirements.
  - Ensure alignment with government regulations and client expectations.
- **System Design:**
  - Develop a detailed architecture for the blockchain-based voting platform.
  - Create mockups and workflows for user interfaces and role-based access.
- **Implementation:**
  - Develop and integrate blockchain modules for secure vote recording.
  - Implement voter authentication mechanisms and real-time results tracking.
- **Verification and Validation:**
  - Conduct rigorous testing, including unit, integration, and system tests.
  - Perform user acceptance testing (UAT) to ensure system functionality and usability.
- **Deployment:**
  - Deploy the system in a live environment.
  - Train users and stakeholders on system operation.
- **Post-Implementation Review:**

- ➢ Collect feedback and address any post-deployment issues.
- ➢ Document lessons learned and finalize project closure.

6. Stakeholders

- **Government Body (Client):** Project sponsor and primary end-user.
- **Voters:** End-users who will interact with the system for voting.
- **Administrators:** Responsible for managing the system.
- **Observers:** Monitors and verifies system operations.

7. Project Deliverables

- Blockchain-based voting platform.
- Biometric/OTP authentication module.
- Real-time results tracking dashboard.
- Comprehensive project documentation.